Audit of Forest Planning and Practices

Skeena Cellulose Inc.

Tree Farm Licence 1

FPB/ARC/46

July 2002

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Report from the Board

A. Report from the Board

This is the Board's report on a compliance audit of TFL 1 held by Skeena Cellulose Inc. (Skeena). The operating area for TFL 1 consists of four geographically separate blocks, in steep rugged terrain dominated by the Skeena mountains and the Nass Basin. TFL 1 is generally north, east, and west of Terrace in the Kalum Forest District.

The Report from the Auditor (Part C) provides further details on the location of the licence, the scope of the audit and the audit findings. The Report from the Auditor is based on the audit procedures described in Part B.[1]

The audit examined SCI's operational planning; timber harvesting; road construction, maintenance and deactivation; silviculture; and fire protection practices for the period from June 1, 2000 to June 18, 2001.

The Board considered the Report from the Auditor, along with supporting audit evidence, and written representations from SCI. The Board affirms the auditor's findings and conclusions. The audit found significant non-compliance with the implementation of planned harvesting practices in riparian areas. In all other significant respects, SCI's activities complied with Forest Practices Code requirements for operational planning; silviculture; fire protection; and road construction, maintenance and deactivation activities.

There were instances of non-compliance in other areas of timber harvesting and operational planning, as well as instances of non-compliance in road maintenance, silviculture and fire protection. However these were minor in nature, and as such, were not considered worthy of reporting.

The Board notes that riparian management issues arose on 13 of 48 cutblocks examined. These ranged from logging inside prescribed stream buffers, to cases of misclassified or unidentified streams. The Board is concerned that, despite the fact that each issue taken separately would not be considered significant, the cumulative effect of such practices represents a distinct risk to the riparian values within TFL 1.

The Board is further concerned with the operational inconsistencies observed during the audit. We understand that SCI is operating with some older, dated silviculture plans, but despite more current information being available, the plans have not been updated. In addition, the execution of the plan did not match the plan requirements in some cases. To remedy this situation, SCI told the Board it has started a review of all silviculture prescriptions within the Terrace operations, to cover all active and unlogged cutblocks. The review includes riparian classification and wording in the silviculture prescription. The Board encourages this initiative

[1] Part B of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

as a positive and immediate response. However, SCI needs to not only change outdated prescriptions, but to improve operational adherence to the plan, so that practices will be a reflection of the plan and will accurately reflect an achievable goal for the land base.

SCI disagrees with the Auditor of Record's reporting of one stream that had been classified by the audit team as S3, and by SCI as S4. Both SCI and the auditors used different methodologies to record the measurements necessary to complete the classification. After review and deliberation, the Board is confident that the audit team's methodology is adequate, and does not propose further audit activity on this point.

Finally the Board considered the audit result in light of the government's results-based code discussion paper, released May 1, 2002. In our opinion, the same key findings of this Code compliance audit would remain a concern under a new results-based code, when subject to the requirements of the discussion paper.

W.N. (Bill) Cafferata, RPF
Chair, Forest Practices Board
July 11, 2001

Forest Practices Board
Compliance Audit Process

B. Forest Practices Board Compliance Audit Process

Background

Forest Practices Board conducts audits of government and agreement-holders for compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board has the authority to conduct these periodic independent audits under section 176 of the *Forest Practices Code of British Columbia Act* (the Act). Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

The Board undertakes both "limited scope" and "full scope" compliance audits. A limited scope audit examines selected forest practices (e.g., road construction, maintenance and deactivation; timber harvesting; or silviculture) and the related operational planning activities. A full scope audit examines all operational planning activities and forest practices.

The Board determines how many audits it will conduct in a year, and what type of audits (limited or full scope), based on budget and other considerations. The Board audits agreement-holders who have forest licences or other tenures under the *Forest Act* or the *Range Act*. The Board also audits government's Small Business Forest Enterprise Program (SBFEP), which is administered by Ministry of Forests district offices. Selection of agreement-holders and district SBFEPs for audit is done randomly, using a computer program, to ensure a fair, unbiased selection of auditees.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice regulated by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board selects an audit and decides on its scope (limited scope or full scope), the audit period and the staff and resources required to conduct the audit are determined. Board staff also meet with the party being audited to discuss the logistics of the audit before commencing the work.

All the activities carried out during the period subject to audit are identified; for example, harvesting or replanting sites and building or deactivating road sections. The items that make up each forest activity are referred to as a "population." For example, all sites harvested form the "timber harvesting population." All road sections constructed form the "road construction population." The populations are then sub-divided based on factors such as characteristics of the sites and potential severity of the consequences of non-compliance on the sites.

For each population, the auditors choose the most efficient means of obtaining information to conclude whether there is compliance with the Code. Because of limited resources, auditors usually rely upon sampling to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest practices within each population have different characteristics, such as the type of terrain or type of yarding. Each population is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from the air using helicopters and intensive ground procedures, such as measuring specific features like road or riparian reserve zone width. The audit teams generally spend one to two weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance, and assessing the significance of non-compliance, requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to determine the audit results. The audit team, composed of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria, including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is or has the potential to be significant, and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred, or is beginning to occur, to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy and Mines, and Water, Land and Air Protection.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for submission to the Board. The party being audited is given a draft of the report before it is submitted to the Board so that the party is fully aware of the findings. The auditee is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines if the audit findings may adversely affect any party or person. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow parties that may potentially be adversely affected to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally decide on written representations, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews the report from the auditor and the representations from parties that may potentially be adversely affected before preparing its final report, which includes the Board's conclusions and, if appropriate, recommendations.

If the Board's conclusions or recommendations result in newly adversely-affected parties or persons, additional offers of representations would be required.

Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.

Report from the Auditor

Report from the Auditor

1.0 Introduction

As part of the Forest Practices Board's 2001 compliance audit program, Tree Farm Licence 1 (TFL 1) was selected for audit from the population of major licences within the Prince Rupert Forest Region. The licence, held by Skeena Cellulose Inc. (Skeena) was selected randomly and not on the basis of location or level of performance.

TFL 1 is located in the Skeena/Nass region of the province near the city of Terrace. The licence is located entirely in the Kalum Forest District within four geographically separate blocks. North of Terrace, the licence extends into the Nass Valley, including the upper Ishkheenickh and Kiteen drainages. To the east it encompasses the Copper (Zymoetz) River Valley, and to the west it includes much of the area south of the Skeena River (see attached map).

On May 11, 2000, areas of TFL 1 located on Nisga'a lands were incorporated into a new forest licence (forest licence A64298). The activities and obligations associated with these areas are not included within this report and were part of a separate audit of Skeena's forest practices and planning on Nisga'a lands.

TFL 1 has an allowable annual cut of approximately 611,000 cubic metres. Skeena harvested approximately 535,000 cubic metres during the audit period, dispersed across the licence area.

Much of TFL 1 consists of steep, rugged terrain dominated by the Skeena mountains and the Nass Basin. The timber harvesting land base—the area estimated to be economically and biologically available for harvest—accounts for approximately 21 percent of the licence area. The forest is primarily mature hemlock and balsam stands with poor quality timber, and significant areas of immature forest.

2.0 Audit Scope

The audit examined Skeena's activities in the areas of operational planning (including forest development plans[i] and silviculture prescriptions[ii]); timber harvesting; silviculture; fire protection; and road construction, maintenance and deactivation. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code). All activities, planning and obligations for the period June 1, 2000, to June 18, 2001, were included in the scope of the audit.

Continuing road maintenance and silviculture obligations associated with areas of TFL 1 that are now part of forest licence A64298 were not included within the audit scope.

The activities carried out by Skeena during the audit period were:

- harvesting of 67 cutblocks
- construction of 8 new bridges and new roads totalling 77.25 kilometres

- maintenance of 111 bridges, approximately 879 kilometres of active road, involving activities such as road surfacing and cleaning culverts and ditches, and approximately 453 kilometres of seasonally-deactivated roads
- seasonal deactivation of roads totalling 91.5 kilometres
- silviculture activities and obligations, such as planting brushing, regeneration and free-growing obligations on 195 cutblocks
- protection activities including fire preparedness planning and fire preparedness of active operations

Activities carried out on TFL 1 during the audit period were approved in Skeena's 1998-2005 and 2000-2007 forest development plans. In addition to forest development plans, a total of 29 silviculture prescriptions were approved during the audit period, under which harvesting activities had not yet started.

Section 3.0 describes the audit of these activities and the results. The Board's audit reference manual, *Compliance Audit Reference Manual, Version 5.0, May 2001,* sets out the standards and procedures that were used to carry out this audit.

3.0 Audit Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following practices:

- harvesting practices on 40 cutblocks
- construction of 6 bridges and approximately 39.4 kilometres of new road
- maintenance of 62 bridges and approximately 244 kilometres of active road and 130 kilometres of seasonally deactivated road
- seasonal deactivation of approximately 41 kilometres of road
- silviculture activities and obligations on 38 cutblocks
- fire-preparedness planning and fire-preparedness at 9 active sites

The audit also examined Skeena's 2000-2007 forest development plan and eight cutblocks approved during the audit period where harvesting had not yet started.

No higher level plans[iii] were in place at the time of the audit (see section 4.0).

Findings

The audit found significant non-compliance in the area of planning and harvesting practices in, and adjacent to, riparian areas. In all other significant respects, Skeena's operational planning;

timber harvesting; silviculture; fire protection; road construction, maintenance and deactivation complied with the Code.

The audit identified contraventions of riparian management requirements on 13 of 48 blocks examined. The key non-compliances identified were:

- Six cases were identified where portions of prescribed stream buffers had been logged.

The streams were all adjacent to, rather than inside, cutblocks. In each case, loggers had logged to the marked boundary but the boundary was closer to the stream than prescribed in the silviculture prescription. Two of the streams were fish-bearing and four of the streams were non fish-bearing. The harvesting that occurred was either within riparian management zones (RMZs) or outside of the RMZ, but within a larger prescribed buffer. There were no instances of harvesting within a riparian reserve zone. The total amount of timber logged in this way was approximately 4,000 square metres. Damage to streams associated with these practices was minimal, being limited to the deposition of a small amount of landing debris in one S4 fish stream (less than 1.5 metres wide). The flow of the stream was not disrupted.

- Four cases were identified where non fish-bearing streams were misclassified
- Two cases were identified where non fish-bearing streams had not been identified and classified.

Five of the six misclassified or unidentified streams were within cutblocks and one stream was adjacent to a cutblock boundary. In each case, the practices that took place did not damage the stream and were within the range of practices acceptable for the correct stream class.

The frequency of findings associated with riparian planning and practices indicates a frequent problem in the planning and implementation of prescriptions that relates to three areas:

- Field marking of buffers that is inconsistent with prescription requirements.
- On-the-ground practices that were not modified in situations where field marking was clearly inconsistent with the prescription (e.g. along one small non-fish stream, logging had occurred within five metres of the stream, yet the prescription stated a 20-30 metre buffer was required).
- Identification and classification of streams.

Although the findings were frequent in nature, there was little damage to streams associated with the practices. Technically, all of the above practices could have been approved in silviculture prescription amendments, had they been identified and submitted.

However, while this approach did not lead to significant damage during the audit period, there are clearly potential future repercussions associated with the current processes. This risk is exacerbated by prescriptions that contain contradictory information (three instances were identified where the silviculture prescription and related map showed different stream classifications) or which have not been updated to reflect the best available information (two

instances were identified where the silviculture prescription had not been updated to reflect the most recent stream inventory information). Examination of a small sample of planned but unlogged blocks specifically to determine whether the problems were related to historic activities did not remove this concern, as two further potential issues were identified:

- The ribboning on the riparian reserve zone of a large (S2) fish stream had been incorrectly positioned such that a small portion (200 square metres) of the reserve zone was within the proposed area to be logged.
- A small fish stream identified as an S4 classification (less than 1.5 metres wide) requiring no reserve zone was found by the audit team to be an S3 classification (1.5-<5.0 metres wide) requiring a 20-metre reserve zone. However, the amount of extra buffer required was only 700 square metres.

Although each individual case of non-compliance was deemed to be not significant, the audit determined this non-compliance to be significant overall, due to the frequency of findings, and the related potential for further, more significant damage to streams and riparian management areas in the future.

The main sections of the Code to which the non-compliance relates are sections 17, 51, 67 and 96 of the *Forest Practices Code of British Columbia Act*, section 39 of the *Operational Planning Regulation* and section 10 of the *Timber Harvesting Practices Regulation*.

It should be noted that subsequent to the audit, Skeena moved to reduce the risk associated with these practices by initiating a review of operational plans to identify and amend plans that contained inconsistent or inaccurate information. Such an exercise should substantially reduce the potential for future environmental damage associated with existing silviculture prescriptions.

4.0 Other Comments

Operational Planning Requirements of the Forest Practices Code

Skeena's forest development plan was required to specify measures that would be carried out to protect forest resources by section 10(1)(c) of the *Forest Practices Code of British Columbia Act*. To meet this requirement, the plan had to meet the specific requirements of the *Operational Planning Regulation* and the objectives of any land use plans that had been designated by government as higher level plans.

Under the Code, such land use and landscape level planning is expected to provide direction to forest development plans through the setting of objectives, which typically include objectives for the maintenance of successional stages of the forest, biodiversity and for the management of habitat for specific species such as grizzly bear.

In the Kalum Forest District, direction is provided by the Kalum Land and Resource Management Plan (LRMP), which was formally approved by Cabinet in April 2001. However, at the time of the audit, the LRMP was not designated as a higher level plan.

In the absence of higher level plans, the *Operational Planning Regulation* still requires forest development plans to address features such as sensitive areas, wildlife habitat areas, old-growth management areas and ungulate winter ranges as well as general objectives for coarse woody debris and wildlife trees.

Skeena's forest development plan was not required to address landscape level protection of specific wildlife or biodiversity resources due to the lack of specific Code requirements related to these items at this time. Accordingly, the audit, which was limited to an assessment of compliance with the Code, did not assess Skeena's forest development plan in relation to these landscape level elements.

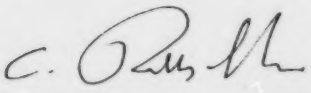
5.0 Audit Opinion

In my opinion, except for the significant non-compliance described below, the operational planning; timber harvesting; silviculture; fire protection; and road construction, maintenance and deactivation activities carried out by Skeena Cellulose Inc. on TFL 1 complied in all significant respects, with the related Code requirements as of June 2001.

As described in section 3.1, the audit found non-compliance with the riparian management requirements of the Code on 13 of 48 cutblocks examined. The non-compliance included unauthorized harvesting of small sections of riparian buffers on six streams and incorrect classification of one fish-bearing stream and six non-fish streams.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

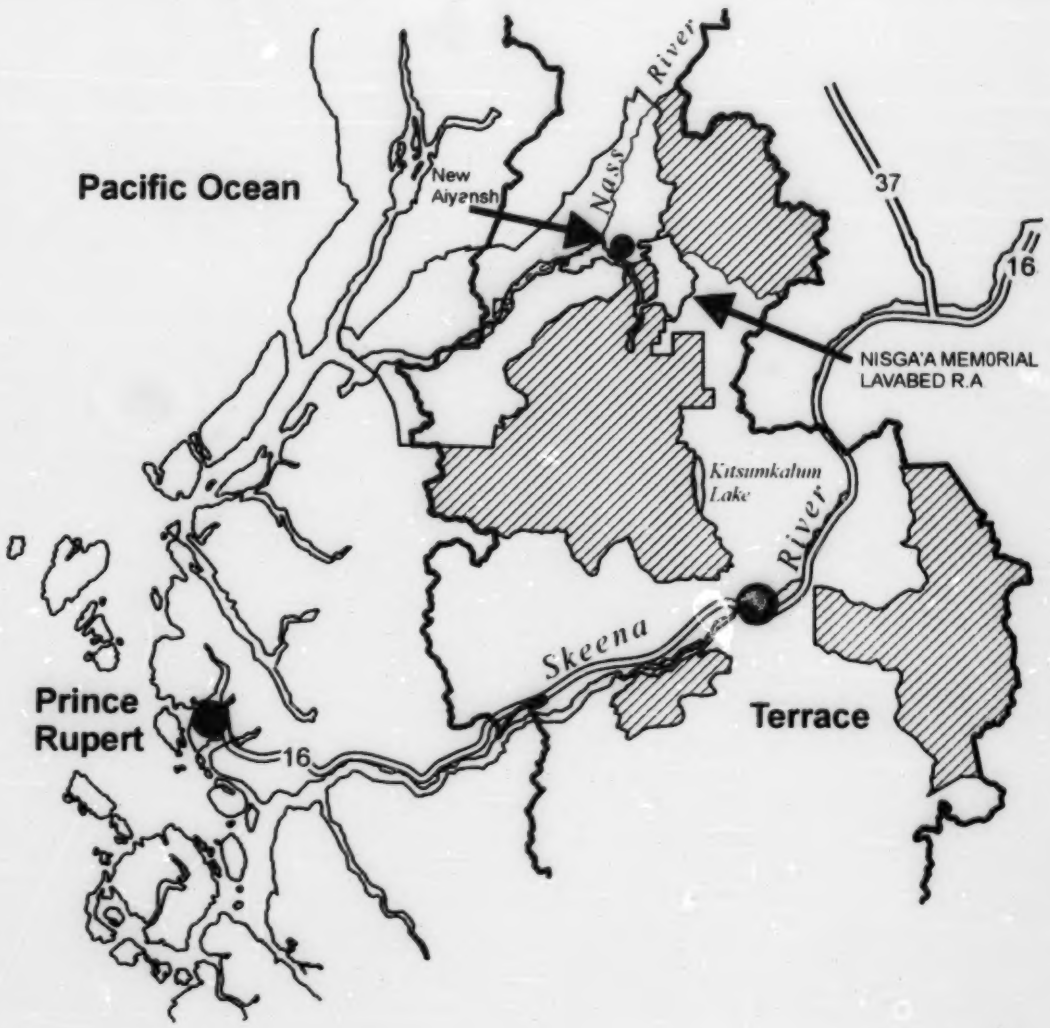
Sections 2 and 3 of this report from the auditor describe the basis of the audit work performed in reaching the above opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient forest planning and practices to support an overall evaluation of compliance with the Code.



Chris Ridley-Thomas, R.P.Bio
Auditor of Record
Vancouver, British Columbia

May 21, 2002

Audit of Skeena Cellulose Inc., Tree Farm Licence 1



[i] A forest development plan is an operational plan that provides the public and government agencies with information about the location of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources. It must also be consistent with any higher level plans. Site-specific plans are required to be consistent with the forest development plan.

[ii] A silviculture prescription is a site-specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values, including biological diversity, and produce a free-growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.

[iii] A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail, or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.